

LOG: March 26, 1988

Arrived VE3YQT repeater site 1935 hrs

Present were: VE3BCD, VE3JSC, VE3NHX, VE3KRH

## TEST FINDINGS

### SWR CHECK

.8 watts reflected  
17.5 watts forward  
SWR 1-1.6

Transmitter feedback to receiver desence. 4 PL259 connectors were resoldered and one T connector was replaced on the duplexers. This helped reduce the feedback. Further replacement of cables is necessary.

### SPURIOUS EMISSIONS

From colinear: 147.86, 147.77, 147.495, 146.63  
Short antenna in building, 147.33, 146.47, 146.21

These frequencies were received with an ICOM 271 multi mode. These frequencies noted could also be transient. Further tests will tell.

TTP on YQT link is nonfunctional

The 271 was connected directly to the feed line and antenna. The existing noise as heard previously on YQT, was then heard on the 271 quite pronounced. This noise was further enhanced when the 271 was used in place of the 146.46 received and the transmitter was up. Note: This could be attributed to the duplexers and cables.

Also noted was an intermittent severe loss of signal strength measured in S units on the 271 while functioning as a receiver on 146.46.

Possible cause with what information we have to date.

- A ground connector either on our equipment or another users equipment on the tower
- A connection problem at our antenna
- The intermittent problem noticed on the S meter could be attributed to an intermittent open in the antenna
- Loose hardware, or another users equipment being loose or moving on the tower would attribute to the noise we experience on VE3YQT
- Loose hardware on our equipment i.e. antenna brackets etc. could cause a noise condition
- Anything loose or moving on the Mount Baldy CKPR tower is capable of generating noise
- We should also not rule out Ontario Hydro and their associated equipment i.e. broken insulators etc.

### FUTURE EVALUATION

On going tests and future evaluation to be done on VE3YQT (off site)

Windspeed and RS noise study over a 30 day time period, this will be conducted daily by VE3OTC and VE3AVS.

Consult other users on the tower and find out if they are experiencing any similar problems at the Mount Baldy site. (Completed - Answer from other users. NO!)

Conduct a DC resistance check with a DVM on antenna and feedline. What should be the DC resistance of the antenna? Can we measure the resistance on TBR and use it as a reference? What is the resistance of 7/8" ANDREWS HELIAX per ft or per 100'?

Is a 1.6 to 1 SWR acceptable on our antenna and feedline? (Note: it was not there when antenna was first installed in June 1986)

Have more low power test stations out in the field i.e. handie talkies and fixed antennas  
2 Meter FM receivers (IC271) should be brought up stairs to transmitter room and spurious emissions recorded in that area (Not possible now)

FUTURE EVALUATION (Continued)

Are S readings on spurious emissions necessary? ( Yes )

What is the effect on the receive and transmit signal when a Sinclair SRL 229 antenna is side mounted contrary to manufactures recommendations? ( This antenna is designed for TOP MOUNTING )

If a noise problem can not be found then separating the receive and transmit antennas will be tried. i.e. receive off tower, transmitt off building and vice versa for test purposes ( We know know that this is not possible because we won't be given access to the site )

Tape record next set of tests from the field

Video tape and record tests, footage of tower and building and other users on the tower. Footage of location and surrounding area.

TESTS WERE COMPLETED AT SITE AT APPROX 2230